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Printing of The Lancet

THE difficulties that we mentioned a fortnight ago have now come to a head, and issues of THE LANCET are likely to be in token form until normal work is resumed in the London printing-houses. We can only express our regret that, for the time being, we are prevented from fulfilling properly our obligations to subscribers, contributors, and advertisers.

Violence

VIOLENCE, whether elemental or human, is always news. But reports, and even investigations, of its effects seldom reveal its cause. In the past month two such reports have come from mental-deficiency institutions in Scotland: in one [1] some nurses were tried and acquitted on charges of ill-treating patients, and in the other [2] there was an apparently spontaneous outbreak of violence by a group of patients. Happenings of this kind are, of course, more likely in institutions—ranging from prisons to mental hospitals—where groups of people are detained against their will; and the basic causes are no doubt always much the same. Just as the force of an explosive charge depends on its chemical instability and the degree of compression to which it is subjected, so also do instability and constraint determine the violence of human reactions. It is largely because they are unstable that mentally sick persons come for treatment and mental defectives have to be placed under care: unsoundness of mind and a deficiency in mother wit are not in themselves grounds for medical or legal action. Hence, all mental hospitals contain potentially explosive material, and one certainly cannot expect minor individual outbursts to be less common in them than in the community outside. But they will not act as detonators for a major explosion unless the main charge has been unduly constrained.

There are two historical reasons for the constraint of the mentally sick (who of all people, are least able to tolerate it): first, the public demand for protection from something fearful and unintelligible, and secondly the belief that self-discipline could be instilled by force. Modern "open-door" methods of treatment have done a great deal to reduce tension and the chances of violence, but where they have been most successful they have consisted in much more than the unlocking of doors. Freedom to do nothing is not worth having; but so many patients have been inactive for most of their lives that to fit them for a measure of liberty is really hard work, of which the nurses bear the brunt. The custodial attitude of the mental attendant is deeply rooted and to alter it requires both imagination and courage. In its early stages, so radical a change imposes considerable strain on the nurses, and these, feeling insecure, may be tempted to deal with the inevitable setbacks by resuming restrictive and even punitive measures. But there is ample evidence that, once this stage is passed, the new liberty to be occupied, backed by the means to live a more active life, relieves the very ills for which restraint was imposed.

In the prevention of violence much attention is still paid to the classification of mental patients, because it is manifestly unwise to store the detonators with the charge; but this reasoning loses much of its force if the charge is dispersed. In fact, there is evidence that an unstable patient is less likely to cause trouble if he is admitted to a well-behaved group than if he is forced to associate with his own kind. Modern treatment aims to build up self-respect and self-discipline from within. The diminution in outbursts of violence among patients, and in allegations of ill-treatment against nurses, are true measures of its success.

Barbiturate Poisoning

IN one of our recent issues,[1] Miss EILEEN BROOKE gave some figures about deaths from barbiturate poisoning in England and Wales in the years 1939–54. In 1954, 391 people committed suicide by taking an overdose of barbiturates—eight times as many as in 1945. As there was no corresponding rise in the total number of suicides during these years, it is clear that barbiturates are increasingly preferred as a means of self-destruction. One obvious reason for this is the ease with which the mentally ill can obtain them in lethal amounts. About 1 in 12 of all National Health Service prescriptions are for drugs containing barbiturates; and, as we have said before,[2] there are considerable risks in repeatedly handing out barbiturates to neurotic patients, particularly when a prescription allows the patient to acquire at once a quantity large enough to kill him.

The development in the past few years of ultraviolet spectrophotometric methods for the estimation of barbiturates in body-fluids has added much to our knowledge of poisoning by these drugs. In our issue of Jan. 28 Mr. BROUGHTON and his colleagues described their work at Oxford in the investigation of 36 patients during 1952–55, and similar studies have been described by WRIGHT,[3] of the London Hospital. BROUGHTON et al. used a modification of GOLDBAUM'S ultraviolet spectrophotometric method,[4] and this enabled the laboratory to identify and to estimate the concentration of barbiturates in tissue-fluids within one hour, thus making the information of practical value to the clinician. WRIGHT found that barbiturates were distributed fairly evenly throughout the body-water, and quite an accurate estimate of the ingested dose could be made from the blood concentration and the patient's weight. The concentration of drug in cerebrospinal fluid was rather lower than that in blood, which is further evidence that the old advice to drain the cerebrospinal fluid in barbiturate poisoning has nothing to commend it. Estimations of the concentration of barbiturate in the urine are of no clinical value, because large doses of barbiturate depress urine secretion. The short-acting and medium-acting barbiturates, being largely destroyed in the body, appear unchanged in only low concentration in the urine, and the presence in urine of other chromogens interferes with the accuracy of the estimation. Phenobarbitone is more easily detected, but BROUGHTON et al. were unable to correlate its concentra-

1. *Scotsman*, Jan. 27, 28, 1956.
2. *Glasgow Herald*, Jan. 25, 1956. Statement by General Board of Control for Scotland, Jan. 26, 1956.

1. Brooke, E. M. *Lancet*, Jan. 21, 1956, p. 150.
2. *Ibid*, 1954, ii, 75.
3. Wright, J. T. *Quart. J. Med.* 1955, **24**, 95.
4. Goldbaum, L. R. *Anal. Chem.* 1952, **24**, 604.

tion in the urine with the patient's degree of consciousness. When a large dose of a short-acting barbiturate, such as pentobarbitone, is taken by mouth, the blood-level reaches about 5 mg. per 100 ml. twelve hours after ingestion of the drug. The level then falls fairly steadily and nearly all the drug is cleared from the body within four days. Consciousness is regained when the level falls to between 1 and 2 mg. per 100 ml. When the poisoning is fatal, the blood-level at death may not be significantly higher than the level found in some patients who recover. With comparable doses of phenobarbitone, the blood-level may rise to 10 mg. per 100 ml., and consciousness tends to return when the level reaches 5–6 mg. The level falls slowly with this drug and the blood may still contain 4 mg. per 100 ml. seven days after ingestion. Barbitone is also excreted very slowly: blood-levels approaching 20 mg. per 100 ml. have been found twenty-four hours after ingestion, while ten days later the figure was still 2 mg. per 100 ml. There is, of course, variation from patient to patient in the degree of consciousness associated with different blood-levels of the drugs. WRIGHT found that 2 patients who had been subject to epilepsy for twenty years remained conscious when the phenobarbitone level was over 5 mg. per 100 ml.; but such tolerance was unusual, and no patient was free from symptoms or signs of intoxication with a blood-level of over 3 mg. per 100 ml. Dr. WRIGHT and Mr. BROUGHTON and his colleagues have done an important service in exploring this new biochemical technique: the clinician will be glad of biochemical guidance about which barbiturate was taken, how much, and when, since he so often lacks this information when it is most needed.

We have as yet no means of hastening the destruction or excretion of ingested barbiturate. The use of analeptics in barbiturate poisoning, favoured by some workers and rejected by others, is designed to keep the patient conscious or nearly conscious until the barbiturate has been dissipated. A more recent development is the introduction, by SHAW and SHULMAN and their associates in Melbourne,[5–7] of bemegride ('Megimide') as a specific barbiturate antagonist. 41 patients, 9 of whom were classed as "serious," were treated with this drug, and only 1 died.[6] It is said that bemegride quickly brings the comatose patient to a "safe state" of light unconsciousness from which he recovers to full consciousness some hours later, presumably when the blood-barbiturate level has fallen spontaneously. (SHULMAN also uses amiphenazole ['Daptazole'], which is thought to reduce the toxicity of bemegride and to potentiate its action.) But, though favourable results have been obtained by others [8–14] in small numbers of cases, the value of bemegride has not yet been fully assessed. WRIGHT,[15] while agreeing that it has an analeptic action in poisoning by short-acting barbiturates, believes that the specificity of a barbiturate antagonist should be proved in poisoning by long-acting barbiturates. Calculating the expected time of recovery of consciousness in 7 of SHULMAN'S patients who took phenobarbitone, he argues that only 2 of them recovered earlier than they would have done if bemegride had not been given. Here, and when he questions the safety of the "safe state," his argument is an indirect one, and further work is awaited on the relation between the blood-barbiturate level and the degree of consciousness in patients treated with bemegride: a preliminary report by HOLTEN [9] records that after administration of bemegride a patient became conscious despite quite a high blood-barbiturate level. Another finding of WRIGHT [3] was that in patients seen within four hours of taking barbiturates, gastric lavage produced appreciable quantities of the ingested drug, but that after four hours only negligible amounts were recovered. BROUGHTON et al. report that up to 4% of the ingested dose can be recovered by gastric lavage, provided this is undertaken within twelve hours of ingestion. But the doctor in the casualty-room seldom knows what time has elapsed since the drug was taken, and the prospect of recovering at least some of the poison from the stomach or œsophagus will encourage him to wash out the stomach without delay. THOMSON and ALSTEAD [16] have lately described the technique they recommend.

In 1954, HUNTER and GREENBERG [17] described 3 cases in which the symptoms were originally attributed to islet-cell tumour of the pancreas but were later found to be due to chronic barbiturate intoxication. This clinical impersonation led HUNTER and his colleagues to inquire into the effects of the barbiturates on carbohydrate metabolism, and we have lately published their findings.[18] 16 patients who were receiving large doses of barbiturates daily were given two doses of glucose, and the levels of glucose and of pyruvate in the blood were followed. Abnormally high levels of both glucose and pyruvate were found; but these levels, especially that of pyruvate, could be restored towards normal by giving vitamin-B complex for two weeks before the test. The abnormal electro-encephalogram of chronic barbiturate poisoning was improved, and the symptoms of barbiturate withdrawal diminished, by giving vitamin-B complex. These observations recall the findings of GOULD,[19] who treated delirium, psychoses, and coma due to drugs (very often barbiturates) by giving intravenously glucose, aneurine (thiamine), nicotinamide, pyridoxine, and ascorbic acid. The extension of this line of research into the biochemical changes produced by barbiturates may well lead to important developments in the treatment of both chronic and acute intoxication by barbiturates.

New Kidneys for Old

THE report [20] of the successful transplanting of a human kidney by MERRILL and his colleagues of Harvard brings hope to those ill with progressive bilateral renal disease. Earlier attempts at renal transplantation in man had not been successful.[21–23] MERRILL et al. have earlier reported their previous experiences in detail.[24] In 9 patients with severe bilateral renal disease in whom kidneys were transplanted, permanent function was not maintained, although in 1 patient—a doctor with chronic glomerulonephritis—adequate renal function persisted in the transplanted kidney for $5^1/_2$ months.

The knowledge that skin homografts between identical twins have survived permanently [25] and the recent report of a successful kidney transplant between dizygotic cattle twins [20] led the Boston workers to transplant a kidney from a healthy young man into his twin brother who had advanced and diffuse chronic glomerulonephritis. Later, both diseased kidneys were removed. The function of the transplanted kidney was excellent 12 months after the operation, and the patient has made a remarkable recovery. Before the transplant he was very

5. Shaw, F. H., Simon, S. E., Cass, N. M., Shulman, A., Anstee, J. R., Nelson, E. R. *Nature, Lond.* 1954, **173**, 402.
6. Shulman, A., Shaw, F. H., Cass, N. M., Whyte, H. M. *Brit. med. J.* 1955, i, 1238.
7. See *Lancet*, 1954, ii, 746.
8. Montuschi, E., Wickenden, P. D. *Ibid*, 1955, i, 622.
9. Holten, C. *Ibid*, 1955, ii, 619.
10. Perinpanayagam, M. S. *Ibid*, p. 620.
11. Rogerson, C. A. *Ibid*, p. 873.
12. Bingle, J. P., Whituram, J. G. *Brit. med. J.* 1955, i, 1340.
13. Webb, J. W. S. *Ibid*, 1955, ii, 56.
14. Buckman, J. *Ibid*, p. 203.
15. Wright, J. T. *Lancet*, 1955, i, 1329.
16. Thomson, T. J., Alstead, S. *Brit. med. J.* 1955, i, 1022.
17. Hunter, R. A., Greenberg, H. P. *Lancet*, 1954, ii, 58.
18. Hunter, R. A., Merivale, W. H. H., Smith, A. J. *Ibid*, 1955, ii, 1353.
19. Gould, J. *Ibid*, 1953, i, 570.
20. Merrill, J. P., Murray, J. E., Harrison, J. H., Guild, W. R. *J. Amer. med. Ass.* 1956, **160**, 277.
21. Lawler, R. H., et al. *Ibid*, 1951, **147**, 45.
22. Küss, R., Teinturier, J., Milliez, P. *Mém. Acad. Chir.* 1951, **77**, 755.
23. Michon, L., et al. *Pr. méd.* 1953, **61**, 1419.
24. Hume, D. M., Merrill, J. P., Miller, B. F., Thorn, G. W. *J. clin. Invest.* 1955, **34**, 327.
25. Brown, J. B. *Surgery*, 1937, **1**, 558.

ill with malignant hypertension and congestive failure and on one occasion he required treatment with an artificial kidney for uræmia and convulsions. After the operation, the transplanted kidney began to hypertrophy; the patient improved rapidly, and his blood-pressure was reduced to a range of 130–160 mm. Hg systolic and 80–90 diastolic. Because of the persistent and mild hypertension, his two damaged kidneys were removed 3 and $5^1/_2$ months after the renal transplant, and his blood-pressure then fell to normal levels. The patient is now in good health; his activity is unlimited, and he has no apparent physical disability. Examination of the urine from the new kidney showed a proteinuria of 4·5 g. per 24 hours, but no other abnormality.

Before the operation a geneticist determined beyond reasonable doubt that the twins were identical. This was done on the identity of their anthropological, immunological, and physiological (ability to taste phenylthiocarbamide) characteristics when compared with their sibs. Later, immunological and genetic similarity was proven by the crossed transplantation of small skin grafts between the twins. The skin transplants took and when biopsies were taken a month later, they appeared to have survived as normal skin.

At the operation the vessels of the transplanted kidney were grafted on to the recipient's hypogastric artery and common iliac vein. The ureter was implanted into the bladder. This site was selected because experience with 13 previous renal transplants in man had pointed out the disadvantages of the renal fossa and the right thigh as recipient sites. The ureter was implanted into the bladder because experience in Boston with autotransplants of kidneys in dogs had shown that the organs survived permanently when the ureter was transplanted into the bladder rather than into other organs, when the autografted dog kidney deteriorated rapidly.[26] Simultaneous operations were performed on recipient and donor in adjacent operating-rooms, and although the donor kidney was ischæmic for 82 minutes, the entire organ became turgid and pink immediately the clamps on anastomosed vessels were released. A ureteral catheter was left in the donor ureter until the 9th postoperative day when normal function of the donated kidney was proven beyond doubt by prompt excretion of injected indigo carmine.

Identical twins are born approximately once in 350 births, and there cannot therefore be many patients with renal failure who will be able to benefit immediately from this work. But the fact that the operation is technically feasible should encourage those who are investigating the causes of failure in renal and dermal transplants in man and in animals. These and other related problems were discussed at length at a Ciba symposium held in London two years ago.[27] At the meeting of the Central Society for Clinical Research in 1954, GOOD and VARCO, of Minneapolis, reported successful transplantation of a homograft of skin in a child with agammaglobulinæmia.[28] Since skin and kidney possess a common antigen,[29] it is reasonable to speculate that renal homografts might take in patients ill with this rare disease. If agammaglobulinæmia can be produced artificially in patients with renal failure, it may provide the answer to renal transplantation in man. On the other hand, it may exchange one fatal disease for another.

26. Dempster, W. J., Joekes, A. M. *Quart. J. exp. Physiol.* 1953. **38**, 11.
27. Preservation and Transplantation of Normal Tissues. Ciba Foundation Symposium. London, 1954; p. 100.
28. Good, R. A., Varco, R. L. *J. Amer. med. Ass.* 1955, **157**, 713.
29. Billingham, R. E., Brent, L., Medawar, P. B. *Ann. N.Y. Acad. Sci.* 1955, **59**, 409.

Annotations

ARTERIOGRAPHY IN BONE TUMOURS

EVEN after careful assessment of the history, the clinical signs, and the straight radiographs, it is often hard to say whether a particular bone lesion is malignant or not. Many of these doubtful lesions are in children or young adults, for whom a major amputation undertaken because of a wrong diagnosis of malignancy would be especially tragic. Moreover, the pathologist is often unable to clinch matters because the biopsy specimen may not be typical of the whole. In view of these difficulties, it is surprising that other ancillary methods of diagnosis, such as percutaneous arteriography, have not been used more widely. The technique was introduced by Dos Santos et al.[1] as long ago as 1932. Since that time there have been relatively few reports of its use in this way. The introduction of less toxic contrast media, and recent work by Lasser and Von Schowingen [2] in America and Sutton [3] in London, may stimulate research and encourage the further application of arteriography in the diagnosis of bone tumours.

Percutaneous puncture of the femoral or subclavian vessels is a safe operation in experienced hands, and a skilful operator can get successful results in over 90% of cases. Puncture of the brachial artery is less satisfactory owing to its variable anatomy and the risk of inducing spasm. In over 250 cases of percutaneous arteriography, Sutton encountered no severe or important complications. He recommends 42% diodone, except for the brachial artery, where he uses a 35% solution. Percutaneous arteriography is uncomfortable for the patient, who usually experiences a feeling of intense heat in the limbs, and the examination should be performed either under general anæsthesia or after adequate sedation.

With rapidly growing malignant tumours an abnormal vessel pattern is often displayed. The arrangement of these vessels differs strikingly from the normal orderly arborisation. There are more vessels than normal, venous channels can be seen more readily, and a "tumour stain" is often distinguished. Osteoplastic metastases do not usually show tumour vascularity, but the osteolytic secondaries show varying degrees of abnormal vessel formation, similar to that produced by primary malignant tumours. Osteochondromas usually leave the normal vascular pattern unchanged; but giant-cell tumours become diffusely opaque within three or four seconds of the injection, and the opacity persists for at least six seconds. In some tumours of low malignancy, such as fibrosarcoma, Sutton saw no abnormal vessels. In fibrous dysplasia the vessels are dilated but normal in distribution. Lasser and Von Schowingen report that in Paget's disease there is no vascular abnormality, but in one such case they noted abnormal vessels, and the patient later died from neoplastic bone changes.

1. Dos Santos, R., Lamas, C., Caldos, P. *Bull. Soc. nat. Chir.* 1932, **48**, 635.
2. Lasser, E. C., Von Schowingen, R. S. *N.Y. St. J. Med.* 1955, **55**, 3425.
3. Sutton, D. *Brit. J. Radiol.* 1955, **28**, 13.

"A GREAT PATIENT"

Ethel Wise was born in 1886 at Stratford, Essex. During her 69 years of life she was admitted to the London Hospital 53 times, and she died there in April, 1955. She was "in service" until an accident in 1926 started her long odyssey of illness. Rheumatoid arthritis, rheumatic heart-disease, streptococcal septicæmia, pernicious anæmia, carcinoma of the breast, X-ray dermatitis, and pulmonary fibrosis; these, with their complications and sequelæ, were the life of Ethel Wise. 7 consultants and 32 house-physicians cared for her in hospital. She complained little, and endured all things. After her death her last clinical clerk wrote her history,[1] and in a foreword Dr. A. E. Clark-Kennedy, her physician, says:

> "We read the obituaries of great doctors and surgeons but never, I think, of great patients. Yet those of us who have been in practice for any length of time have all come across some great patients. Some had been born great. Others were great and some had had greatness thrust upon them. By no stretch of imagination could Ethel Wise be said to have been born great, but all who knew her remain convinced that she was by nature great and that ill-health forced greater greatness on her. . . . In her body she taught us much about disease; in her mind very much more about courage in the face of adversity."

It is good, in the midst of such things as occupied-bed percentages, problems of medical man-power, morbidity

1. Sorapure, J. B. *Lond. Hosp. Gaz.* 1955, **58**, 271.

indices, and standard deviations, to pause and think about Ethel Wise and her doctors. They remind us of the reality among statistical shadows, of the humanity behind χ^2; and that Man is greater than his creations.

Parliament

Purchasing Power of Incomes

Mr. JOHN HALL asked the Chancellor of the Exchequer his estimate of the gross salary which, in 1938, would have given a married man with two children the same purchasing value, after tax, as he receives today from a gross salary of £2000 and £3000, respectively.—Mr. HENRY BROOKE replied: About £633 and £859 respectively.

Mr. HALL: Does the Minister think it right to impose additional taxation in the form of surtax on a purchasing value of £633?—Mr. BROOKE: My hon. Friend is calling attention to the heavy burden of present-day taxation. On that I could not agree with him more.

Mr. HALL asked the Chancellor what would be the gross earned incomes required today by a married man with two children to equal, after deduction of tax, the purchasing power of gross earned incomes in 1938 of £2000 and of £3000 per annum.—Mr. BROOKE replied: About £12,200 and £34,600 respectively. Mr. HALL: Is not this an apt illustration of the old saying that "The higher you go the fewer," and does not this act as a great discouragement to men and women who find that as they progress in their professions their standard of living falls?—Mr. BROOKE: I think that what my hon. Friend says is perfectly true.

Mr. HALL asked the Chancellor what salary he would need today to equal in purchasing power, after tax, the salary enjoyed by the holder of his office in 1938. Mr. BROOKE replied: About £75,000. Mr. HALL: Is my right hon. Friend aware that I am almost overwhelmed by that figure? May I ask him if he thinks that the holders of the august office of Chancellor of the Exchequer before 1938 were overpaid or, alternatively, does he think that the duties and responsibilities of that office have lightened since 1938? If not, will he say when he proposes to take such measures as may be necessary to increase the salaries of the Chancellor and other Ministers, and especially junior Ministers? Is he aware that, although it may be less difficult to become a junior minister than a bummaree, a bummaree is probably very much better off?—Mr. BROOKE: I can scarcely answer all my hon. Friend's questions, but I think that the original question has called attention to how hard it is, with present-day penal rates of taxation on large incomes, to remunerate adequately men in any walk of life who carry great responsibilities.

In England Now

DURING the cold spell the only comfortable and contented creatures in the house have been the tropical fish in the surgery. Thermostatically controlled at a steady 75°F, without a thought for the electricity bill, they watched us through their window on to the human world, passing and repassing with coils of electric cable, resuscitated oil lamps, and cans of paraffin, striving to keep ourselves and our environment unfrozen. Indifferent to our difficulties two males out of the shoal of Rosy Barbs chose to don their mating dress, suffusing silver flanks with a blush of pink and edging their fins with borders of intense black. They became quarrelsome, chasing one another through the water plants, the other fish keeping judiciously out of their way. The liveliest male lost none of his colour when he was netted and placed in a separate tank, and one of the plumper females was selected as his bride. His display scored an instant success, for spawning began at once.

It is regrettable that Barbs are bad parents, eating their own eggs or fry without compunction, so both fish were netted once again and returned to the shoal in the surgery. The hatch was not a large one, but fry appeared from the thick of the plants in the next few days; thin threads of body behind two black eyes, hanging under the surface film and darting an inch or so away if disturbed. They are growing well now, fed on the fishy equivalent of 'National Dried,' a particulate suspension squeezed from a tube. Apparently it is an acceptable substitute for the infusoria of the waters of India whence their forebears came.

Letters to the Editor

REMUNERATION OF DOCTORS

SIR,—Following your publication last week of a letter from Dr. Talbot Rogers and Sir Russell Brain on the subject of medical remuneration, I think it is desirable that your readers should be informed that at a very well attended meeting of the Royal College of Physicians of Edinburgh on Feb. 7 the following motion was passed by an overwhelming majority:

"That the College, having received the report of a meeting between representatives of the General Medical Services Committee and the Joint Consultants' Committee, considers that no claim for a general increase in medical remuneration based upon 'the betterment factor' should be made at the present time, but believes that, if and when an appropriate time should arrive for such a claim to be made, the method of joint action proposed in the report is acceptable."

Royal College of Physicians, Edinburgh. STANLEY DAVIDSON President.

SIR,—I have been dismayed to read in the medical and lay press of the impending claim for increased remuneration for medical practitioners, and I hope you will allow me to state why I consider these claims to be ill timed and ill advised.

It is stated that the object of the claim is to meet the decline in the value of money since 1950, or, in other words, to offset the effects of inflation. I am fully conscious of the evils of inflation, but I believe the only effective counter-measure is to do all one can to halt inflation. At last the Government does appear to be making a serious attempt to grapple with this menace, but it seems highly probable that success will be achieved only if governmental action is supplemented by restraint and coöperation on the part of various sections of the community. It is for this reason that I consider the present time to be particularly inappropriate for this claim. Coming, as it does, from a big and reasonably prosperous professional group, which hitherto has been esteemed for its integrity, altruism, and intelligence, it will undoubtedly embarrass the present attempts to curb inflation, and, if granted, will almost certainly contribute to further inflation and further taxation. Obviously the granting of this claim would promptly be followed by similar claims from other groups in the Government services, the universities, nationalised industries, &c.

This claim is to be deplored not only because it is contrary to the national interest, but also because it can result in no substantial benefit to the profession as a whole. With the present structure of income-tax it is obvious that against a background of continued inflation, as the gross income rises, increases in salary become of diminishing value in terms of both net income and purchasing power and thus can provide only a temporary relief, which would in the case of most doctors be small in degree and bear little relation to the increase in gross salary. If the merry-go-round in inflation continues, the position of the higher salary groups must inexorably continue to deteriorate in relation to the rest of the community, despite repeated increases in salary.

For these reasons I believe that, if the economic status of the medical profession is to be maintained or improved, it is essential to do all that is possible to combat inflation, and to resist, even if it entails apparent self-sacrifice, any measure likely to encourage it. If it is felt that more positive action is called for, I would suggest that, instead of pressing salary claims, consideration might be directed to the possibility of obtaining a modification of the present taxation system which would be more equitable to the professional classes. It is some two years since the findings of the Millard-Tucker Committee were published. This report contained recommendations which would ease the financial position of many professional men, but I have heard no talk of its being implemented, nor of any interest in it being taken by those of our profession who claim to safeguard our economic welfare.

University Department of Medicine, Royal Infirmary, Glasgow. L. J. DAVIS.

CŒLIAC DISEASE

SIR,—Dr. Véghelyi (Feb. 4), commenting on Dr. Sheldon's paper,[1] draws attention to his own work and that of others which showed that the pancreatic enzymes, particularly lipase, may be inhibited by acute infectious fevers or gastro-

1. Sheldon, W. *Lancet*, 1955, ii, 1097.

intestinal disease, sometimes producing symptoms similar to those of cœliac disease.

Over the last three years I also have observed in my cases of acute infectious disease in young children that some have developed, during convalescence, symptoms like the early manifestations of cœliac disease. These symptoms respond dramatically (usually within two or three days) to a gluten-free diet and reappear when a premature return to normal diet is made. Typically, a child between 1 and 5 years of age becomes naughty and difficult a few days after the onset of an acute infectious illness such as measles or gastro-enteritis. He is irritable, negativistic, and spiteful; sleep is disturbed and he wakes up many times in the night and often screams; his appetite is poor; he fails to gain weight; his abdomen is often distended; and the stools resemble those of cœliac disease. This condition, if left untreated, usually rights itself after a month or two, but may last for much longer, in which case slight petit-mal-like attacks may develop, in addition to worsening of the other symptoms. Even at this stage, a gluten-free diet can still cause complete remission of symptoms.

The adult equivalent of this syndrome seems to be the headache, insomnia, and depression that commonly follows infectious illnesses such as influenza. These three symptoms are often associated with irritability, abdominal distension, and pruritus ani. The response of all symptoms to a gluten-free diet is prompt in most cases, and they reappear if the diet is discontinued too early. The animal counterpart of these syndromes may be canine hysteria.

Circumstantial evidence suggests that these conditions are caused by an allergic reaction to an amino-acid digestion product of wheat-flour affecting nerve, intestinal, or other cells temporarily damaged by the infective process. Unfortunately skin tests are no help in establishing the allergic basis of these syndromes, any more than of cœliac disease itself. If the conditions are in fact allergic the allergens involved must be blood-borne, because of the diversity of the manifestations; therefore the allergens must be digestion products of wheat-flour rather than the wheat-proteins (glutenin and gliadin) themselves. The exact nature of the allergen remains obscure, but my observations lead me to believe that it is closely connected with the "staling" process of flour and flour products.

Some of this work has been published in detail,[2] and I propose to publish the rest shortly. I hope that others will be able to observe similar cases and undertake a controlled study.

Hove, Sussex. GUY DAYNES.

LEPTOSPIROSIS AMONG BRITISH TROOPS IN MALAYA

SIR,—The views expressed last week by Captain Clein are to be respected in that they represent his own personal opinion. I feel I should point out, however, that at present the weight of specialist opinion in the Army Medical Services is that penicillin is of little value in the treatment of leptospirosis as encountered in Malaya and Singapore.

War Office, London, S.W.1. W. A. D. DRUMMOND, Deputy Director-General, Army Medical Services.

HYPERTROPHIC PULMONARY EMPHYSEMA

SIR,—Although Dr. Oswald terms your leader (Jan. 7) as "conventional," his own letter (Feb. 4) might surely be more justly described by this adjective. For the whole difficulty of the interrelationship between chronic bronchitis and emphysema lies in the most unsatisfactory nature of the conventional explanations.

The clinical and pathological problems were well described by Dr. Samual Gee sixty years ago. To suggest that the observation of "repeated infection" in chronic bronchitis thereby resolves its ætiology begs the difficult questions. Does this infection suddenly start, de novo, in a previously healthy lung? Have the changes in lung function, recently demonstrated in normal people with increasing age, any importance in this development? Why do some patients produce a considerable amount of sputum for years without emphysema developing, while others first seek advice when they have a considerable degree of lung destruction, and tell us that they very rarely cough?

So far as I am aware there is no authority for Dr. Oswald's statement that the most useful pulmonary function test in practice is the measurement of the oxygen saturation of the blood before and after exercise. In my experience this is one of the least useful tests in the assessment of emphysema. To remark that the accurate diagnosis of emphysema is largely academic, is premature, since we will be aware of the problems only when accurate diagnosis is possible; there is little doubt that the measurement of lung damage by tests of function has a major part to play in this task.

St. Bartholomew's Hospital, London, E.C.1. D. V. BATES.

BENZATHINE PENICILLIN

SIR,—May I draw your attention to a possible objection to the use of long-acting benzathine penicillin preparations, particularly injections said to give therapeutic blood-levels for up to one month. I am concerned about the chance of an allergic reaction developing soon after injection; yet there will remain in the body penicillin potent for days or even weeks. Hitherto no serious reaction to these injections has been reported, but it would seem that a special hazard may exist.

Mayer de Rothschild Hadassah University Hospital, Jerusalem. ELI DAVIS.

FAMILIAL HEMIPLEGIC MIGRAINE

SIR,—Dr. Blau and Dr. Whitty have written a most interesting paper on this subject.[1] However, their statement that "The condition appears to be inherited through a recessive gene . . ." is correct only if they change the word "recessive" to "dominant."

Department of Medical Genetics, Montreal Children's Hospital, Quebec, Canada. JULIUS METRAKOS.

*** This letter has been shown to Dr. Blau and Dr. Whitty, who write: "We are grateful to Dr. Metrakos for drawing attention to our error. Inheritance appears to be by an irregularly dominant gene."

HOMOSEXUALITY

SIR,—Dr. Learoyd's criticisms (Feb. 4) of Dr. Comfort, and his oblique championship of the B.M.A. report, would have carried more weight if he had been more objective. Had he, for instance, been able to adduce statistical evidence to support the claim that punitive measures such as martyrdom, witch-hunting, inquisitions, pogroms, and the odium attaching to illegitimacy had significantly reduced the numbers of Christians, witches, heretics, Jews, and bastards, then, by parallel argument, he might have developed a less gratuitous case against Dr. Comfort. Alas for sophistry! History, rather perversely, tends to show that whereas persecution supported by legislation has ever achieved but little, the repeal of some of the relevant civil laws has, in most cases, at least mitigated the associated evils.

London, N.W.3. PHILIPPE BAUWENS.

"MUNCHAUSEN'S SYNDROME"

SIR,—On the evening of Feb. 2 a young Irishman, with a crew cut, claiming to be a ship's radio officer and ex-mental nurse, appeared in this hospital. He said that two hours previously right postauricular pain and unsteadiness of gait had developed.

He was afebrile, with a right facial palsy, a healthy right mastoid cavity, and papillœdema of the right optic disc, although this was not easily seen because of continual to-and-fro movements of the eye. He bore the scars of many operations on the right side of his skull, with a recent endaural scar which he claimed was due to a mastoidectomy in Dublin nine months before. This identified him as the man described by Dr. Robson last week and by earlier correspondents.

Despite heavy sedation, he was troublesome throughout the night and the following morning. During the afternoon he became violent and aggressive. Dr. J. T. Hutchinson, the visiting psychiatrist, considered him to be a hysteric rather than a malingerer; he was remarkably suggestible. He had apparently lost 4 stone in weight, and it was difficult to see the cause of his behaviour. He was admitted to a mental hospital that day.

St. Giles' Hospital, London, S.E.5. W. MACKENZIE, T. L. BOWEN.

2. *Coll. gen. Practit. Res. Newslett.* 1955, no. 9, p. 128.

1. Blau, J. N., Whitty, C. W. M. *Lancet*, 1955, ii, 1115.

BILLROTH-I AND POLYA OPERATIONS

SIR,—In their paper (Feb. 4) comparing the results of these two operations Professor Goligher, Professor Moir, and Mr. Wrigley report cases in which a recurrent ulcer appeared in the gastric stump after a Billroth-I resection for an ulcer in the duodenum, and they speculate upon the cause of this unexpected complication.

Last year I showed,[1] from an analysis of 119 cases of associated gastric and duodenal ulcers, that such gastric ulcers usually develop after duodenal scarring has caused gastric retention. I reported that of 331 patients admitted to hospital with pyloric stenosis, 1 in 6 ultimately turned out to have a gastric ulcer as well, and I showed that gastric retention due to other causes might also lead to gastric ulceration. I quoted a prediction I had made in 1948 [2] that vagotomy alone, since it caused gastric retention, might well be followed by gastric ulcer. (Many instances have since been reported.) I also wrote of the Billroth-I gastrectomy: "I predict that its present widespread revival and popularity will lead to some recurrent *gastric* ulcers due to its use in cases where the creation of only small stomas has been possible."

May I join with Professor Goligher and his colleagues in urging restraint in the use of the Billroth-I operation for patients with duodenal ulcer?

London, W.1. H. DAINTREE JOHNSON.

FACTORY IN A HOSPITAL

SIR,—Much as we may applaud Dr. Baker's article last week as an attempt to improve the lot of the chronic psychotic, we accept his claims for its success only with considerable reserve and not a little scepticism. Those of us who have worked as institutional psychiatrists for, say, twenty years can remember other enthusiastic advocates of therapeutic procedures which have promised to empty, or half-empty, our mental hospitals. With chagrin we recall, amongst others, the promise and relative failure of leptazol, deep insulin, leucotomy, and more recently acetylcholine and chlorpromazine.

The experiment at Banstead has lasted so far four months, during which time 3 patients have been discharged. On this evidence Dr. Baker says: "It would not seem impossible, in a hospital of this size, to discharge long-stay patients at the rate of 100 a year, and this would mean that in twelve years the patient-population of Banstead would be halved." By what arithmetical alchemy are these figures arrived at? Why not reduce to absurdity the estimated "emptying-rate" and claim that in twenty-four years there would be no patients, no hospital, no factory!

We must point out, too, that rates of discharge and of cure are not identical. What follow-up studies has Dr. Baker done on those patients discharged since the experiment began, and on those whose prior discharge, as he explains, made the room for the experiment available? What cognisance has he taken of the readmission-rate of patients discharged from Banstead into his own and other hospitals?

In all progressive mental hospitals—and it is obvious that Banstead must be included amongst them—there has been in recent years a change of policy and of heart in the handling of the chronic patient. "Total push"—that is, the attempt to keep all patients occupied on productive work or engaged in emotionally satisfying activities—has produced an enormous change in the atmosphere of the hospitals. Activity has usurped apathy; hope has replaced despair. As a practical consequence the superimposition of an "institutional psychosis" engendered by enforced idleness, which is the greatest insult to human dignity, on to the psychosis with which the patient was admitted is prevented. But, and this is the real heart of the matter, it is doubtful if this new policy has in any way altered the natural course and history of any of the so-called functional psychoses. Schizophrenia, for example, one of the greatest scourges of mankind, remains a chronic illness in which, despite all our efforts, remissions and relapses are to be expected.

In thus criticising Dr. Baker's paper we have no wish to dampen his enthusiasm for his project. What we fervently hope is that he will not allow premature and extravagant claims to bring his good work into disrepute.

Horton Hospital, Epsom, Surrey. HENRY R. ROLLIN
J. H. WATKIN.

1. *Lancet*, 1955, i, 266.
2. *Postgrad. med. J.* 1948, **24**, 193.

Notes and News

After the year 1949–50 no supplementary estimate for the National Health Service was submitted until last year, when the revised estimate called for a further £6 million. For the current financial year a supplementary estimate totalling £12,621,650 net for England, Wales, and Scotland has been submitted. This will bring the total net cost of the service to £479,337,405 in the present year. Most of the additional money is required for the hospital service, for which the original estimate (£304,680,000) is increased by £8,729,000 to £313,409,000. In England and Wales, but not in Scotland, additional money is required for the pharmaceutical and general dental services—£2,043,000 for the pharmaceutical service (revised estimate £41,179,000) and £1,324,000 for the general dental service (revised estimate £28,069,000). (1955–56, Supplementary Estimate: Civil Estimates and Estimates for Revenue Departments. H.M. Stationery Office. Pp. 147. 5*s*.)

At the annual general meeting of the National Fund for Poliomyelitis Research on Feb. 8, a letter was read from Sir Harold Himsworth, secretary of the Medical Research Council, to Admiral Sir Charles Daniel, chairman of the Fund. Sir Harold said that, in the view of the M.R.C., while vaccination with the present formalin-inactivated poliomyelitis vaccine should prove a most important advance, it would be unjustifiable to assume that the final answer to the problem had been found. Judging from early experience in the United States and elsewhere, it was unlikely that the present vaccine would abolish poliomyelitis completely, although we might expect it to give a substantial measure of protection. It would be premature, therefore, to stop investigating alternative preventive measures, of which the most hopeful seemed to be vaccine made from living attenuated virus which would be given by mouth. Development of such a vaccine was still at an early stage, Sir Harold said, and would require further extensive fundamental studies of the properties of the virus.

On Jan. 25 the degree of M.S. of the University of London was awarded to A. R. Anscombe and P. A. Ring.

At a meeting of the council of the Royal College of Surgeons of England on Feb. 9, with Sir Harry Platt, the president, in the chair, an honorary fellowship was presented to Sir Walter Mercer, president of the Royal College of Surgeons of Edinburgh. The Hallett prize was awarded to T. N. Shanmugalingam (Ceylon), and Handcock prizes were awarded to J. G. Cruickshank (U.C.H. Medical School) and to P. J. Stiles (Guy's Hospital Medical School). Fellowships were granted in the Faculty of Anæsthetists to the following: Isabel B. Schooling, Sheila M. Parker, C. R. Jolly, A. H. Phillips, A. J. Merrifield, T. M. Young, A. J. Sims, R. I. Keen, Patricia M. Lumb, Freda E. Prince-White, R. P. Wise, J. L. Anderson, B. E. G. D'Bras, Thomas Thomson, M. G. Rolfe, Norman Laurie Smith, J. C. S. Ainley-Walker, Daphne Burkinshaw, E. J. Delaney, Leon Kaufman, Merlin Marshall, Yee Kit Poon, D. G. R. Wright, B. J. Brandstater, R. J. Genever, O. H. French, A. C. Webster.

At a meeting of the Royal College of Physicians of Edinburgh held on Feb. 7, with Sir Stanley Davidson, the president, in the chair, the following were elected to the membership: G. L. Montgomery, A. Kennedy, J. H. F. Brotherston, K. K. Nayak, J. G. Cowley, H. A. S. Joseph, S. Zacharias, J. B. Barr, H. Khosla, M. J. Raymond, J. F. Hare, A. H. Kitchin, R. Pirrie, N. A. Shaikh, P. C. Sikand, A. L. Minhas, J. O'Neill, F. G. Roux, M. G. Williams, R. A. Main, M. L. Suri, D. Glajchen, I. B. Hales, M. Hallowell, P. E. Soysa, B. T. Dave, V. G. Wills, E. Chigier, J. F. Adams, J. T. Hughes, S. Sivasithamparam, S. L. Bhargava, S. Janardhana, R. A. W. Ratcliff, F. M. Narielvala.

At a meeting of the Royal College of Physicians of Ireland held on Feb. 3, with Dr. F. J. O'Donnell, the president, in the chair, the following were admitted as licentiates and members: C. F. Brennan, Joan M. MacCarthy, N. J. O'Doherty.

A public conference on The Atomic Age—Perspectives and Problems is to be held on Saturday, March 10, at 2 P.M., at the Holborn Assembly Hall, John's Mews, London, W.C.1. Prof. J. B. S. Haldane, F.R.S., will speak on genetic effects of radioactive substances.

Dr. Richard May has been appointed surgeon-apothecary to the household of Queen Elizabeth, the Queen Mother, at the Royal Lodge, Windsor.

Dr. R. M. Hardisty, at present senior lecturer in clinical pathology, St. Thomas's Hospital Medical School, London, has been appointed senior lecturer (clinical pathologist) at the Welsh National School of Medicine.

The annual general meeting of the Mental Health Research Fund will be held at 1, Wimpole Street, London, W.1, on Tuesday, March 6, at 5.15 P.M. Sir Russell Brain, F.R.C.P., will give an address and Dr. Arthur Hughes will show his film on the growth of nerve-cells.

The National Institute for the Deaf has issued a new edition of its booklet containing an approved list of dealers in hearing-aids. Copies may be had from the institute, 105, Gower Street, London, W.C.1.

Eighty nurses at a Manchester epileptic colony have decided to ban overtime work from March 1 (*Manchester Guardian*, Feb. 7). The nurses in four Lancashire mental hospitals have already imposed a similar ban as a protest against their pay and conditions of service.

At an extraordinary general meeting on Feb. 2 the National Association for the Prevention of Tuberculosis passed a special resolution to alter its constitution to enable its work to include diseases of the chest and heart. Proposing the resolution, Sir Robert Young, vice-chairman of council, said that the change was in line with current tendencies. Chest clinics nowadays dealt with many non-tuberculous conditions of the thorax, and under the resolution voluntary help could in future be extended to such patients. The N.A.P.T.'s concern with tuberculosis would not diminish, so long as there was need for it.

Diary of the Week

FEB. 19 TO 25

Monday, 20th

HUNTERIAN SOCIETY
8.30 P.M. (Mansion House.) Sir Henry Cohen: Reflections on the Hunterian Method. (Hunterian oration.)
POSTGRADUATE MEDICAL SCHOOL OF LONDON, Ducane Road, W.12
4 P.M. Dr. Denis Williams: Disturbances in Sleep.

Tuesday, 21st

BRITISH POSTGRADUATE MEDICAL FEDERATION
5.30 P.M. (London School of Hygiene and Tropical Medicine, Keppel Street, W.C.1.) Mr. K. C. Richardson: Problem of Mammary Growth and Structure.
ROYAL SOCIETY OF MEDICINE, 1, Wimpole Street, W.1
5 P.M. *Pathology and Epidemiology and Preventive Medicine.* Dr. D. D. Reid, Dr. Lynne Reid, Prof. J. Mulder (Leiden), Prof. C. H. Stuart-Harris: Chronic Bronchitis.
ST. MARY'S HOSPITAL MEDICAL SCHOOL, Paddington, W.2
5 P.M. Dr. Kenneth Cross: Resuscitation of the Newborn.
INSTITUTE OF DERMATOLOGY, Lisle Street, W.C.2
5.30 P.M. Dr. R. T. Brain: Skin Diseases of Children.
SOUTH WEST LONDON MEDICAL SOCIETY
8.30 P.M. (Bolingbroke Hospital.) Sir Theobald Mathew: The Queen's Peace.
SOCIETY FOR THE STUDY OF ADDICTION
8 P.M. (11, Chandos Street, W.1.) Mr. Lawrence Abel, Dr. A. H. Douthwaite, Sir Harry Greenfield, Dr. R. Hale-White, Dr. J. A. Hobson, Sir Hugh Linstead, Prof. P. O. Wolff: The Recent Legislation on Heroin.

Wednesday, 22nd

ROYAL SOCIETY OF MEDICINE
10 A.M. *Endocrinology.* (*Joint meeting with the Society for Endocrinology.*) Symposium on Hormone Administration in Animals and Man.
INSTITUTE OF ORTHOPÆDICS, 254, Great Portland Street, W.1
8 P.M. Mr. J. N. Wilson: Cancellous Bone Grafts.
INSTITUTE OF DISEASES OF THE CHEST, Brompton, S.W.3
5 P.M. Mr. N. R. Barrett: Diseases of the Chest Wall.
INSTITUTE OF DERMATOLOGY
5.30 P.M. Dr. R. W. Riddell: Differential Diagnosis of Fungous Infection of the Skin.
ST. MARYLEBONE HOSPITAL FOR PSYCHIATRY AND CHILD GUIDANCE, 48, Cosway Street, N.W.1
5 P.M. Dr. J. N. Milnes: Blackouts.
BIRMINGHAM MEDICAL INSTITUTE, 154, Great Charles Street, Birmingham, 3.
8 P.M. *Psychiatry.* Dr. R. E. Hemphill: Writer's Cramp and Other Disorders in Writing.
NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY, 64, St. James's Street, Nottingham
8.30 P.M. Sir Clement Price Thomas: Carcinoma of the Lung.
MANCHESTER MEDICAL SOCIETY
4.30 P.M. *Medicine and Pathology.* Dr. Sheila Sherlock: Acute Hepatic Failure.
ROYAL FACULTY OF PHYSICIANS AND SURGEONS, 242, St. Vincent Street, Glasgow
5 P.M. Dr. W. F. M. Fulton: Coronary Circulation in Health and Disease.

Thursday, 23rd

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.2
3.45 P.M. Dr. B. E. Heard: Endometriosis. (Erasmus Wilson demonstration.)
BRITISH POSTGRADUATE MEDICAL FEDERATION
5.30 P.M. (London School of Hygiene and Tropical Medicine.) Dr. M. W. Goldblatt: Industrial Toxicology.
WEST LONDON MEDICO-CHIRURGICAL SOCIETY
9 P.M. (Fellows' Restaurant, Zoological Gardens.) Mr. H. B. Cott, SC.D.: Wild Life in Uganda.
UNIVERSITY OF ST. ANDREWS
5 P.M. (Queen's College, Dundee.) Prof. Dugald Baird: Problems in Obstetrics Today.

Friday, 24th

ROYAL SOCIETY OF MEDICINE
8.15 P.M. *Obstetrics and Gynæcology.* Prof. Gordon King (Hong-Kong): Hydatiform Mole and Chorion-Epithelioma—the Problem of the Borderline Case.
POSTGRADUATE MEDICAL SCHOOL OF LONDON
4 P.M. Prof. R. B. Hunter: Noradrenaline in Medicine.
INSTITUTE OF LARYNGOLOGY AND OTOLOGY
3.30 P.M. Mr. Anthony Radcliffe: Dysphagia.

Saturday, 25th

INSTITUTE OF ORTHOPÆDICS
10 A.M. Mr. J. I. P. James: Scoliosis.

Births, Marriages, and Deaths

DEATHS

IRVING.—On Jan. 22, at Port of Spain, Trinidad, B.W.I., Joseph Kenneth Irving, M.B., D.A., D.OBST., consultant anæsthetist, Colonial Medical Service, formerly anæsthetist, London Clinic, Surgeon Lieut.-Commander, R.N.V.R., aged 42.

Vacancies

ACADEMIC AND EDUCATIONAL
Manchester University. Asst. Lecturer or Demonstrator in Path.
Sheffield University. Lecturer in P.H.
Medical Research Council (Labs. Gambia, W. Africa). M.O.
Royal College of Surgeons of England. Surgery Lectures & Clinical Conferences, Mar./Apl.
Institute of Basic Medical Sciences. Lectures & Demonstrations in Anatomy, Physiology & Path., Sept./Dec.
Cambridge. Gonville & Caius College. Berkeley Bye-F'ship.
Tancred's Studentships. (Divinity: Medicine: Law).
Glasgow University & Royal Fac. of Physicians & Surgeons. Refresher course for G.P.'s, 14th/26th May.
Saskatchewan University, Canada. Lecturer in Bact.
Royal Inst. of P.H. & Hygiene. Course of Instruction (C.P.H.), 16th March.
Aberdeen University. Refresher Course for Med. Practs, 14th/26th May.
King's College, University of Durham, &c. 1st Asst. in Neurology.
University College, Cork. Ainsworth Med. Scholarship.
Faculty of Anæsthetists of the Royal College of Surgeons of England. 8th A.G.M., 21st March.
Royal Society. Govt. Grant for Scientific Invest.
London University. Grants for Research.
Edinburgh University. Lectureship Psych. Med.
Christian Medical Fellowship. Meeting & Lecture.

ANÆSTHETICS
Charing Cross, W.C.2. P.-t. Cons.
Hackney Group H.M.C. Sr. H.O.
Queen Charlotte's & Chelsea Hosps. Sr. H.O.
St. Bart's, E.C.1, London, E.1, & North East Met. R.H.B. Sr. Reg.
St. Charles', W.10. Sr. H.O.
Enfield. Chase Farm. Sr. H.O.
Leeds R.H.B. Regs.
Manchester R.H.B. Sr. H.M.O.
Medway & Gravesend H.M.C. Locum
Norwich United Hosps. Sr. H.O.
Plymouth, South Devon & East Cornwall. Sr. H.O.
Scotland. Eastern R.H.B. Sr. Reg.
Scotland South-Eastern R.H.B. Cons.
Sheffield R.H.B. Sr. H.M.O.
Southend Gen. Sr. H.O.'s
Welsh R.H.B. & Cardiff United Hosps. Sr. Reg.
Wolverhampton Royal. Sr. H.O.
Ibadan, Nigeria. Univ. College Hosp. Reg. & H.O.
Tasmania. Royal Hobart. Specialist
U.S.A. Cambridge, Mass. Residencies

CARDIOLOGY
National Heart (Country Bch.). Sr. H.O.

CASUALTY
Hackney, E. 9. H.O.
Poplar, E.14. Sr. H.O.
South West Met. R.H.B. Sr. Casualty Officer.
Wanstead, E.11. Sr. H.O.
Whittington, N.19. Sr. H.O.
Chesterfield Royal. H.O.
Hemel Hempstead. West Herts. Jr. H.M.O.
Hertford County. Sr. H.O.
Kingston, Surrey. Sr. H.O.'s
Manchester. Ancoats. Sr. H.O.
Nottingham Gen. Sr. H.O.
Plymouth. South Devon & East Cornwall. Sr. H.O.
Reading. Battle. H.O.
Sheffield R.H.B. Sr. Casualty Officer
Sheffield United Hosps. H.O.
Slough. Upton. Locum H.O.
Watford Peace Mem. Sr. H.O.
Weston-super-Mare Gen. Sr. H.O.
York City. Locum Jr. H.M.O.

CHEST AND TUBERCULOSIS
London Chest. E.2. H.O.'s
Bristol. Ham Green. Jr. H.M.O.
Bristol. Ham Green. Sr. H.O.
Chelmsford. Broomfield. Locum Sr. H.M.O.
Driffield. Northfield San. Sr. H.O.
Manchester R.H.B. P.-t. Cons. & Sr. H.M.O.
Paisley & Dist. Hosps. B.O.M. Jr. H.M.O.
Skipton. The Hosp. Sr. H.O. or Jr. H.M.O.
South Brent, Devon. Didworthy Chest. Jr. H.M.O.
South East Met. R.H.B. Regs.
South West Met. R.H.B. Locum Sr. H.M.O.
Welsh R.H.B. Sr. H.M.O.

DENTAL SURGERY
Leicester Royal Infy. H.O.

DERMATOLOGY
Guy's, S.E.1. P.-t. Reg.
Cambridge United Hosps. P.-t. Clin. Assts.
Glasgow. Stobhill Gen. Pre-reg. H.O.
Nottingham City Hosp. & Skin Clinic. Reg.

EAR, NOSE, AND THROAT
North West Met. R.H.B. P.-t. Cons.
Royal National T.N.&E., W. P.-t. Clin. Assts. & O.P. Assts. (G.P.s)
Royal National T.N.&E., W. Reg. or Sr. H.O.
Edinburgh Central Hosps. B.O.M. H.O.
Hull A Group H.M.C. Sr. H.O.
Portsmouth Group H.M.C. Reg.
Reading. Royal Berks. H.O.

GERIATRICS
Whittington, N.19. H.O.
Cardiff. St. David's. Sr. H.O.

INFECTIOUS DISEASES
Sheffield. Lodge Moor. Reg.

MEDICINE
Hammersmith, West London & St. Mark's Hosps. H.O.'s
Lambeth, S.E.11. H.O.
North Middlesex, N.18. H.O.
St. Bart's, E.C.1, & North East Met. R.H.B. Sr. Reg.
St. George-in-the-East, E.1. H.O.
St. Stephen's, S.W.10. H.O.
Whittington, N.19. H.O.'s
Ashford, Middx. H.O.
Aylesbury. Stoke Mandeville. H.O.
Birmingham United Hosps. Reg.
Bristol. Southmead Gen. Hosp. Group M.C. Sr. H.O.
Buxton. Devonshire Royal. Sr. H.O.
Cambridge. Addenbrooke's. H.O.
Carshalton. St. Helier. Reg.

Derby. Derbyshire Royal Infy. Pre-reg. H.O.
Epping. St. Margaret's. H.O.'s
Huddersfield Royal Infy. H.O.
Kingston, Surrey. Pre-reg. H.O.
Kirkcaldy. Victoria. H.O.
Lincoln County. Locum H.O.
Manchester. West Manchester H.M.C. Pre-reg. H.C.
Newcastle United Hosps. Reg.
Nottingham City. Sr. H.O.
Reading Area Dept. of Med. H.O.'s
Romford. Victoria. H.O.
Slough. Upton. Locum Reg.
Southampton Gen. H.O.
Westcliff, Essex. Sr. H.O.
Winchester. Royal Hants County. Pre-reg. H.O.
Woking Victoria. Sr. H.O.
York County. Locum Sr. H.O.
New Zealand. Otago Hosp. Board. Sr. Asst.

NEUROLOGY
Sheffield United Hosps. Sr. H.O.

NEUROSURGERY
Newcastle Gen. Sr. H.O.'s

OBSTETRICS AND GYNÆCOLOGY
Hammersmith, West London & St. Mark's Hosps. H.O.
Plaistow Maternity, E.13. H.O.
Queen Mary's Hosp. for the East End, E.15. Sr. H.O. & H.O.
Whittington, N.19. H.O.'s
Beverley. Westwood. H.O.
Birmingham R.H.B. Regs.
Cardiff H.M.C. Sr. H.O.
Derby. Derbyshire Hosp. for Women. Pre-reg. H.O. or Sr. H.O.
Derby. Derbyshire Hosp. for Women. Reg.
Edinburgh Central Hosps. B.O.M. H.O.
Epsom Dist. Reg.
Hitchin. North Herts. Reg.
Isleworth. West Middlesex. Reg. & Pre-reg. H.O.'s
Leeds R.H.B. Reg.
Liverpool United Hosps. H.O.
Llanelly. Sr. H.O.
Manchester R.H.B. Regs.
Manchester United Hosps. Sr. H.O. & H.O.
Manchester. West Manchester H.M.C. Pre-reg. H.O.
Manchester. Withington. Sr. H.O.
Plymouth. South Devon & East Cornwall. Sr. H.O.
Rochdale & Dist. H.M.C. Sr. H.O.
Salisbury Gen. H.O.
Salisbury Group H.M.C. Reg.
Sheffield United Hosps. Sr. H.O.
Stockport. Stepping Hill. Sr. H.O. & H.O.
Stoke-on-Trent City Gen. Pre-reg. H.O.'s
Stoke-on-Trent. North Staffs Royal Infy. Sr. H.O.
Sunderland. Royal Infy. H.O.
Ibadan, Nigeria. Univ. College Hosp. Sr. Reg.

OPHTHALMOLOGY
Coventry & Warwickshire. Sr. H.O.
Doncaster Royal Infy. Sr. H.O.
Exeter. West of England Eye Infy. Sr. H.O.
Isleworth. South Middlesex. Sr. H.O.
Maidstone. Kent County Ophthalmic & Aural. Sr. H.O.
Manchester United Hosps. Sr. H.M.O.
Nottingham & Midland Eye Infy. Sr. H.O.
Scotland. Eastern R.H.B. Sr. Reg.
Welsh R.H.B. Reg.

ORTHOPÆDICS
Alton. Lord Mayor Treloar Orthopædic. Reg.
Birmingham R.H.B. Reg.
Birmingham. Royal Orthopædic. Sr. H.O.
Colchester H.M.C. H.O. & Locum H.O.
Leeds R.H.B. Reg.
Newcastle United Hosps. Temp. H.O.
Nottingham Gen. Sr. H.O.
Paisley & Dist. Hosps. B.O.M. Jr. H.M.O.
Portsmouth Group H.M.C. Pre-reg. H.O.
Romford. Oldchurch. H.O.
Southampton. Royal South Hants. Sr. H.O.
Southend-on-Sea Gen. Temp. Sr. H.O.
Welsh R.H.B. Regs.
Winchester Group H.M.C. Reg.
Wolverhampton Royal. Sr. H.O. or H.O.
Tasmania. Royal Hobart. Asst.

PÆDIATRICS
Queen Mary's Hosp. for the East End, E.15. H.O.
Whittington, N.19. H.O.
Bournemouth. East Dorset H.M.C. Sr. H.O.
Carshalton. Queen Mary's Hosp. for Child. Sr. H.O.
Manchester. Duchess of York Hosp. for Babies & Wythenshawe. Sr. H.O.
Manchester. Duchess of York Hosp. for Babies. H.O.
Manchester. West Manchester H.M.C. H.O.
Nottingham Child's. Sr. H.O.
Swindon & Dist. H.M.C. Sr. H.O.
Canada. Child's. Hosp., Vancouver. Residents.

PATHOLOGY
Royal Masonic, W.6. Sr. Reg.
St. Andrew's, E.3. Sr. H.O.
West London, W.6. Reg.
Birmingham. Dudley Road. Sr. H.O. or Jr. H.M.O.
Birmingham R.H.B. Regs.
Rotherham Clinical Lab. Reg.
Scotland. Eastern R.H.B. Sr. Reg.
Scotland. Western R.H.B. Reg.
Sheffield United Hosps. Sr. H.O.

PSYCHIATRY
North Middlesex, N.18. Sr. H.O.
Bristol Clinical Area. Sr. H.M.O.
Bromsgrove. Barnsley Hall. Jr. H.M.O. & Locum H.O.'s
Derby. Kingsway. Jr. H.M.O.
East Anglian R.H.B. Regs.
Hove. Lady Chichester. Jr. H.M.O.
Isle of Man. Ballamona. Sr. H.O.
Knaphill, Woking. Brookwood. Jr. H.M.O.
Leeds R.H.B. Reg.
Macclesfield. Parkside Mental. Jr. H.M.O.
Nottingham. Saxondale. Reg.
Prestwich. Jr. H.M.O. or Sr. H.O.
Retford, Notts. Rampton. Jr. H.M.O.
Retford. Rampton. Sr. H.M.O.
Scotland. Western R.H.B. Reg.
Scotland. Western R.H.B. Cons.
Sheffield R.H.B. Sr. Reg.
Welsh R.H.B. Reg.

RADIOLOGY
Manchester R.H.B. Sr. H.M.O.
Manchester R.H.B. Sr. Regs.
Watford & Dist. Peace Mem. Reg.
Wigan & Leigh H.M.C. Reg.

RADIOTHERAPY
Edinburgh Northern Group of Hosps. Sr. H.O.

RESEARCH
Sheffield United Hosps. & R.H.B. Reg.

RHEUMATOLOGY
Taplow. Canadian Red Cross Mem. H.O.

SURGERY
Battersea Gen., S.W.11. H.O.
Charing Cross, W.C.2. Reg.
Highlands Gen., N.21. H.O.
Hosp. of St. John & St. Elizabeth, N.W.8. H.O.
Nelson, S.W.20. H.O.
North Middlesex, N.18. Pre-reg. H.O.
Prince of Wales's Gen., N.15. Sr. H.O.
Queen Mary's Hosp. for the East End, E.15. H.O.
St. George's, S.W.1. Reg.
St. George-in-the-East, E.1. H.O.
St. James', S.W.12. Sr. Reg.
Whittington, N.19. H.O.'s
Ashington, Northumberland. H.O.
Barrow-in-Furness. North Lonsdale. H.O.
Bath. Royal United. H.O.
Bexhill, Sussex. Pre-reg. H.O.
Birmingham R.H.B. Regs.
Bishop Auckland. Gen. H.O.
Blackpool, Victoria. Pre-reg. H.O.
Boston. Gen. Reg.
Broxburn. Bangour Gen. Pre-reg. H.O.'s
Caernarvon & Anglesey H.M.C. H.O.'s
Cambridge. Addenbrooke's. H.O.
Canterbury. Kent & Canterbury. H.O.
Carlisle. Cumberland Infy. H.O.'s
Carshalton. St. Helier. H.O.
Chelmsford & Essex. Pre-reg. H.O.
Chesterfield Royal. H.O.
Chichester. Royal West Sussex. H.O.
Darlington Mem. Sr. H.O.
Dewsbury. Staincliffe Gen. H.O.
Dunfermline & West Fife. H.O.
Edinburgh Central Hosps. B.O.M. H.O.'s
Enfield. Chase Farm. H.O.
Glantawe H.M.C. Pre-reg. H.O.'s
Glasgow. Royal Hosp. for Sick Child. Pre-reg. H.O.
Halifax Gen. H.O.
Haslemere & Dist. H.O. or Locum.
Hastings. Royal East Sussex. Pre-reg. H.O.
Hastings. St. Helen's. Pre-reg. H.O.
Hereford County. H.O.
Huddersfield Royal Infy. H.O.
Ilkley. Middleton. Sr. H.O.
Kingston, Surrey. Sr. H.O.
Liverpool. Bootle. H.O.
Manchester. West Manchester H.M.C. Pre-reg. H.O.'s
Manchester. Wythenshawe. Sr. H.O.
Middlesbrough. North Ormesby. H.O.'s
Newport, I.W. St. Mary's. H.O.
Nottingham Child's. Sr. H.O.
Nottingham Child's. Reg.
Nottingham Gen. Pre-reg. H.O.
Peterborough Mem. H.O.
Perth & Dist. Jr. H.M.O.
Portsmouth Group H.M.C. Pre-reg. H.O.
Reading. Royal Berks. H.O.
Rochdale & Dist. H.M.C. H.O.
Romford. Oldchurch. H.O.
Salisbury Gen. H.O.
Scotland. South-Eastern R.H.B. Reg.
Sheffield United Hosps. Reg.
Slough. Upton. Locum Sr. Reg.
Stirling & Clackmannan Hosps. B.O.M. Pre-reg. H.O.
Stockport Infy. H.O.'s
Stockport Infy. Sr. H.O.
Taunton & Somerset. H.O.
West Bromwich & Dist. Gen. Pre-reg. H.O.
Weymouth & Dist. H.O.
Winchester. Royal Hants County. H.O.
Wolverhampton Royal. Pre-reg. H.O.'s & Locums
Worcester Royal Infy. Sr. H.O.

THORACIC SURGERY
Bristol United Hosps. & South-Western R.H.B. Sr. Reg.

VENEREOLOGY
St. Mary's, W.2. Sr. Reg.

GENERAL
U.S.A. Bethesda. Cincinnati. Rotating Interns

PUBLIC APPOINTMENTS
Barbados Govt. Bact. & Path.
British Guiana Govt. Med. Supt. (Mental Hosp. Berbice).
Derbyshire C.C. Asst. Maty. & Child Welfare M.O.'s & Sch. M.O.'s.
Doncaster County Borough. Asst. M.O.H.
Dublin—Local Appointments Comm. Anæsthetist (P.-t.).
Durham C.C. Senior Maty & Child Welfare M.O. (Female).
Factory Doctors. (Epping, Essex; Shilton, Warwick.)
Gateshead County Borough. Asst. M.O.H. & Sch. M.O.
Gold Coast Local Civil Service. M.O.'s & M.O.H.s.
Govt. of Federation of Rhodesia & Nyasaland. Asst. Med. Supt., Govt. M.O.'s & Path.
Royal Naval Medical Service. M.O. vacancies.
Singapore Govt. Anæsthetist.
Smethwick County Borough. Asst. M.O.H. & Sch. M.O.
South Australia Public Service (Queen Elizabeth Hosp.). Deputy Med. Supt. (Maty).
South-Western Gas Board. A.M.O. (P.-t.), based Truro.
Trinidad Govt. M.O. (Duty primarily in Mental Hosp.)
Warwickshire C.C. Asst. County M.O.H.
Yorkshire C.C. (West Riding). Senior Asst. County M.O. & Sch. M.O.

NON-MEDICAL VACANCY
Scotland. Northern R.H.B. Non-med. Asst. Bact.

(Further particulars of above vacancies available on request to Advertisement Manager.)

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